

Clock Oscillator (时钟振荡器) - KD508C

Feature 特征

Programmable differential (CMOS, PECL, LVDS, CML, HCSL output logic) clock oscillator 可编程差分输出振荡器; High frequency up to 700MHz; 150fs typical phase jitter 超高频低抖动



RoHS
Compliant
KOAN

Applications 应用

Mobile communications, radar navigation, digital products, HD monitoring, precision instruments 移动通信, 雷达导航, 数码产品, 高清监控, 精密仪器等

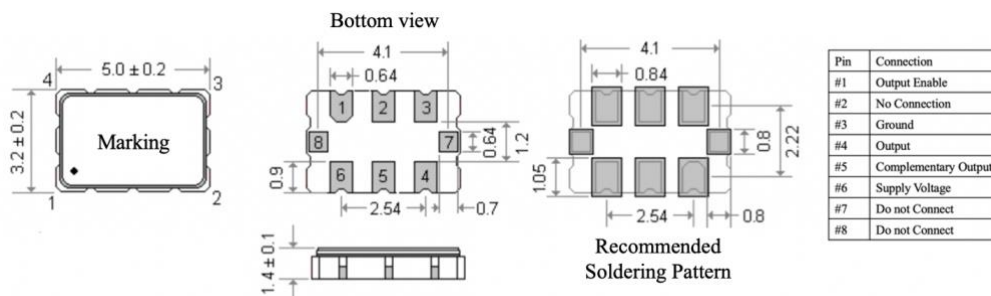
General Specifications 规格参考

| PARAMETER | 性能参数 | 数值 |
|---------------------------------|--------|------------------------------|
| Frequency Range | 频率范围 | 150MHz ~ 700MHz |
| Supply Voltage | 供给电压 | +1.8V/2.5V/3.3V (±10%) |
| Output Logic | 输出波形 | HCSL |
| Frequency Tolerance | 调整频差 | ±30ppm max |
| Frequency Stability | 温度频差 | 见下表 |
| Operating Temperature Range | 温度范围 | 见下表 |
| Current Consumption (15pF load) | 工作电流 | 94mA typ. 115mA max. |
| Output Load | 输出负载 | 50Ω to ground on each output |
| Start-up Time | 起振时间 | 5ms typ. 10ms max. |
| Duty Cycle | 占空比 | 45~55% |
| Rise & Fall Time | 上升下降时间 | 0.4ns max |
| Output Logic High "1" | 输出电平 高 | 0.66V~1.15V |
| Output Logic Low "0" | 输出电平 低 | 0.0V~0.15V |
| Output Voltage Swing | 输出电压波动 | 620~780mV |
| RMS Phase Jitter | 抖动 | 150 fs typ. [12KHz~20MHz] |
| Storage Temperature Range | 储存温度范围 | -55°C ~ +125°C |
| Aging Per Year | 年老化率 | ±3ppm ~ ±5ppm/year |

| Frequency Stability 温度频差 VS Operating Temperature Range 温度范围 | | | | | | |
|--------------------------------------------------------------|------------|-----|-----|-----|-----|------|
| Temp. Code | Temp. \ppm | ±10 | ±20 | ±30 | ±50 | ±100 |
| B | -20~70°C | ○ | ○ | ○ | ○ | ○ |
| C | -40~85°C | | ○ | ○ | ○ | ○ |
| D | -55~85°C | | | ○ | ○ | ○ |
| E | -55~105°C | | | | ○ | ○ |
| F | -55~125°C | | | | ○ | ○ |

NOTE: Please consult for other specifications 若有其它规格需求请告知

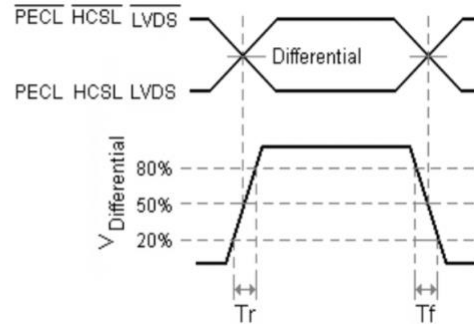
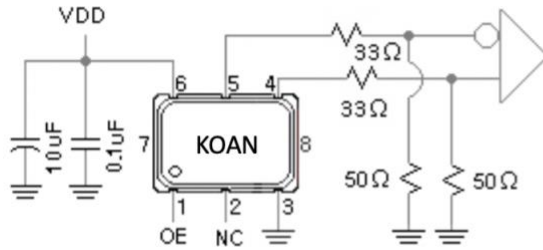
Outline Dimensions (Unit: mm) 外形尺寸



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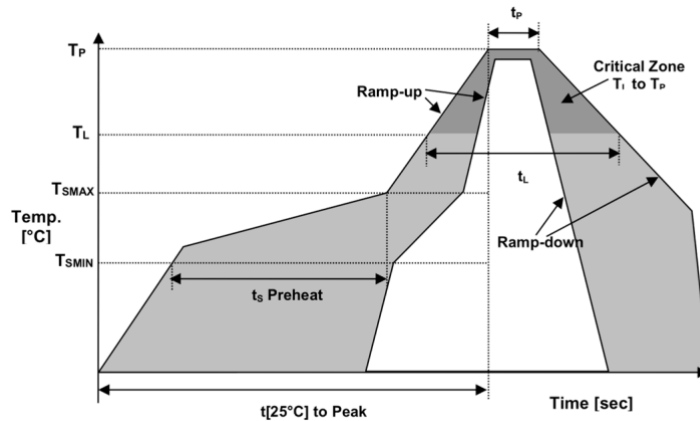
Test Circuits and Output Waveforms 测试电路图以及输出波形



Part Number Guide 产品编号

| | | | | | | | | | | |
|----------------------------------------------------------------------------------|---|---------|---|-------------------------------|---|--------------------------------------------------------------------------------|---|---------------------------------------------------------------------------|---|---------|
| KD508C | - | 622.080 | - | 33 | - | C | - | 30 | - | |
| 封装 | - | 标称频率 | - | 工作电压 | - | 工作温度 | - | 温度频差 | - | 特殊要求 |
| ‘KD’:产品系列 K=KOAN; D=差分 ‘508’:封装尺寸 SMD 5.0x3.2mm 8 pad ‘C’: 输出波形 HCSL | | | | 18=1.8V 25=2.5V 33=3.3V | | B: -20~+70°C C: -40~+85°C D: -55~+85°C E: -55~+105°C F: -55~+125°C | | 10 = ±10ppm 20 = ±20ppm 30 = ±30ppm 50 = ±50ppm 100 = ±100ppm | | NS=特殊要求 |

Reflow Profile 回流焊



| | | | |
|-------------------------------------|------------|-------------------|-------------|
| Temperature Min Preheat | 最低预热温度 | T_{smin} | 150°C |
| Temperature Max preheat | 最高预热温度 | T_{smax} | 200°C |
| Time (T_{smin} to T_{smax}) | 时间差 | T_s | 60~120 sec |
| Temperature | 温度 | T_l | 217°C |
| Peak Temperature | 最高温 | T_p | 260°C |
| Ramp-up Rate | 升温速度 | R_{up} | 3°C/sec max |
| Ramp-down Rate | 降温速度 | R_{down} | 6°C/sec max |
| Time within 5°C of Peak Temperature | 最高温度停留时间 | t_p | 30 sec |
| Time $t[25°C]$ to peak temperature | 25度到最高温度时间 | $t[25°C]$ to peak | 480 sec |
| Time | 时间 | t_L | 60~150 sec |

Revision 版本

| | | | | |
|------------|--------------------|-------------------------|------------|----------------|
| 版本 Rev. | 修改页 Revise Page | 修改内容 Revise Contents | 日期 Date | 修改人 Reviser |
| 0 | N/A | Initial issue | 2020.09.27 | JH |